

WHAT IS CLAIMED IS:

1. An active matrix substrate, comprising:

a pixel electrode provided for each pixel constituted by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element located near a point where the scanning line crosses the signal line, so as to be connected to the scanning line, the signal line, and the pixel electrode;

a storage capacitor electrode for constituting a storage capacitor with the pixel electrode therebetween; and

a storage capacitor common wire disposed parallel to the signal line, wherein

the signal line, the storage capacitor electrode, and the storage capacitor common wire are fabricated from a single electrode layer through patterning thereof.

2. An active matrix substrate, comprising:

a pixel electrode provided in each pixel area bounded by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element connected to the scanning line, the signal line, and the pixel electrode;

a storage capacitor electrode for constituting a storage capacitor with the pixel electrode therebetween; and

a storage capacitor common wire disposed parallel to the signal line so as to be connected to the storage capacitor electrode, wherein

the signal line and the storage capacitor electrode are fabricated from a single electrode layer through patterning thereof.

3. The active matrix substrate as defined in claim 1, wherein

the storage capacitor electrode is a transparent electrode film.

4. The active matrix substrate as defined in claim 1, wherein

the signal line, the storage capacitor common wire, and the storage capacitor electrode are structured so as to include two deposited layers each constituted by either a transparent electrode film or a metal film.

5. The active matrix substrate as defined in claim 1, wherein

the pixel electrode is disposed opposing the storage

capacitor electrode across an insulation film for covering the switching element.

6. The active matrix substrate as defined in claim 5, further comprising an interlayer insulation film interposed between the pixel electrode and the insulation film, wherein

the pixel electrode is disposed opposing the storage capacitor electrode in a contact hole formed through the interlayer insulation film.

7. The active matrix substrate as defined in claim 5, further comprising an interlayer insulation film provided on the insulation film, wherein

the pixel electrode is disposed on the interlayer insulation film, and

the interlayer insulation film is provided with a first contact hole for connecting the pixel electrode to the switching element and a second contact hole for accommodating the pixel electrode to be disposed opposing the storage capacitor electrode.

8. The active matrix substrate as defined in claim 5, further comprising an interlayer insulation film interposed between the pixel electrode and the insulation

film, wherein

the storage capacitor common wire is formed on the storage capacitor electrode so as to be narrower than the storage capacitor electrode, and

the pixel electrode is disposed opposing the storage capacitor electrode in a contact hole formed through the interlayer insulation film.

9. An active matrix substrate, comprising:

a pixel electrode provided in each pixel area bounded by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element connected to the scanning line, the signal line, and the pixel electrode;

a storage capacitor electrode for constituting a storage capacitor; and

a storage capacitor common wire disposed parallel to the signal line so as to be connected to the storage capacitor electrode, wherein

the storage capacitor is formed between the pixel electrode and the storage capacitor electrode, and

the scanning line and the storage capacitor electrode are fabricated from a single electrode layer through patterning thereof.

10. The active matrix substrate as defined in claim 9, wherein

the signal line and the pixel electrode are fabricated from a single conductive layer through patterning thereof.

11. The active matrix substrate as defined in claim 9, further comprising an interlayer insulation film on which the pixel electrode is provided.

12. The active matrix substrate as defined in claim 9, wherein

the signal line, the pixel electrode, and the storage capacitor common wire are fabricated from a single conductive layer through patterning thereof.

13. The active matrix substrate as defined in claim 9, further comprising a gate insulation film for covering a gate electrode of the switching element, wherein

the pixel electrode is disposed opposing the storage capacitor electrode across the gate insulation film.

14. The active matrix substrate as defined in claim 9, further comprising:

a protection film for covering the switching

element; and

an interlayer insulation film interposed between the pixel electrode and the protection film.

15. The active matrix substrate as defined in claim 14, wherein

a contact hole is formed through the interlayer insulation film and the protection film so as to electrically connecting the pixel electrode to the switching element.

16. An active matrix substrate, comprising:

a pixel electrode provided in each pixel area bounded by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element connected to the scanning line, the signal line, and the pixel electrode;

a storage capacitor electrode for constituting a storage capacitor with the pixel electrode therebetween; and

a storage capacitor common wire disposed parallel to the signal line so as to be connected to the storage capacitor electrode, wherein

the scanning line and the pixel electrode are fabricated from a single electrode layer through

patterning thereof.

17. The active matrix substrate as defined in claim 16, wherein

the signal line and the storage capacitor electrode are fabricated from a single conductive layer through patterning thereof.

18. The active matrix substrate as defined in claim 16, wherein

the signal line, the storage capacitor electrode, and the storage capacitor common wire are fabricated from a single conductive layer through patterning thereof.

19. The active matrix substrate as defined in claim 16, wherein

the storage capacitor common wire is disposed parallel to the signal line so as to extend passing near a center of the pixel area bounded by the signal line and the scanning line.

20. The active matrix substrate as defined in claim 17, wherein

the conductive layer is patterned so as to cover a pixel aperture section in the pixel electrode.

21. An active matrix substrate, comprising:

a first pixel electrode provided for each pixel area bounded by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element connected to the scanning line, the signal line, and the first pixel electrode;

a second pixel electrode connected to the first pixel electrode;

a storage capacitor electrode for constituting a storage capacitor with the second pixel electrode therebetween; and

a storage capacitor common wire disposed parallel to the signal line so as to be connected to the storage capacitor electrode, wherein

the scanning line and the second pixel electrode are fabricated from a single electrode layer through patterning thereof.

22. The active matrix substrate as defined in claim 21, wherein

the signal line, the first pixel electrode, and the storage capacitor electrode are fabricated from a single conductive layer through patterning thereof.

23. The active matrix substrate as defined in claim

21, further comprising a connection electrode for connecting the first pixel electrode to the switching element, wherein

the signal line, the connection electrode, and the storage capacitor electrode are fabricated from a single conductive layer through patterning thereof.

24. The active matrix substrate as defined in claim 22, wherein

the conductive layer allows light to pass therethrough.

25. The active matrix substrate as defined in claim 21, further comprising a protection film for covering the switching element, wherein

the first pixel electrode and the storage capacitor electrode constitute the storage capacitor across the protection film.

26. The active matrix substrate as defined in claim 21, further comprising an interlayer insulation film on which the first pixel electrode is provided.

27. The active matrix substrate as defined in claim 25, wherein

a contact hole is formed through the interlayer insulation film and the protection film so as to electrically connecting the first pixel electrode to the switching element.

28. The active matrix substrate as defined in claim 9, wherein

the scanning line is anodized.

29. The active matrix substrate as defined in claim 16, wherein

the scanning line is anodized.

30. The active matrix substrate as defined in claim 21, wherein

the scanning line is anodized.

31. A method of manufacturing an active matrix substrate including:

a pixel electrode provided for each pixel constituted by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element located near a point where the scanning line crosses the signal line, so as to be connected to the scanning line, the signal line, and the

pixel electrode;

a storage capacitor electrode for constituting a storage capacitor with the pixel electrode therebetween; and

a storage capacitor common wire disposed parallel to the signal line, wherein

the signal line, the storage capacitor electrode, and the storage capacitor common wire are fabricated from a single electrode layer through patterning thereof,

said method comprising the step of fabricating the signal line, the storage capacitor electrode, and the storage capacitor common wire from a single electrode layer through patterning thereof.

32. A method of manufacturing an active matrix substrate including:

a pixel electrode provided in each pixel area bounded by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element connected to the scanning line, the signal line, and the pixel electrode;

a storage capacitor electrode for constituting a storage capacitor with the pixel electrode therebetween; and

a storage capacitor common wire disposed parallel to

the signal line so as to be connected to the storage capacitor electrode,

said method comprising the steps of:

depositing an electrode layer on the active matrix substrate and patterning the electrode layer so as to fabricate the scanning line and the pixel electrode;

depositing a gate insulation film;

fabricating the signal line, the switching element, the storage capacitor electrode, and the storage capacitor common wire, and subsequently depositing a protection film; and

concurrently patterning the gate insulation film and the protection film so as to form an aperture section in the pixel electrode.

33. The method of manufacturing an active matrix substrate as defined in claim 32, further comprising the steps of:

depositing a transparent conductive layer on the gate insulation film; and

patterning the transparent conductive layer so as to fabricate the signal line and the storage capacitor electrode while leaving intact the transparent conductive layer for covering the aperture section in the pixel electrode.

34. An image sensor, comprising:

an active matrix substrate;

a conversion section for converting incident magnetoelectric radiation to electric charges; and

bias voltage application means for causing a storage capacitor to store the electric charges, wherein

the active matrix substrate includes:

a pixel electrode provided for each pixel constituted by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element located near a point where the scanning line crosses the signal line, so as to be connected to the scanning line, the signal line, and the pixel electrode;

a storage capacitor electrode for constituting a storage capacitor with the pixel electrode therebetween; and

a storage capacitor common wire disposed parallel to the signal line, wherein

the signal line, the storage capacitor electrode, and the storage capacitor common wire are fabricated from a single electrode layer through patterning thereof.

35. An image sensor, comprising:

an active matrix substrate;

a conversion section for converting incident magnetoelectric radiation to electric charges; and

bias voltage application means for causing a storage capacitor to store the electric charges, wherein

the active matrix substrate includes:

a pixel electrode provided in each pixel area bounded by a scanning line and a signal line that are disposed in a matrix as a whole;

a switching element connected to the scanning line, the signal line, and the pixel electrode;

a storage capacitor electrode for constituting a storage capacitor with the pixel electrode therebetween; and

a storage capacitor common wire disposed parallel to the signal line so as to be connected to the storage capacitor electrode, wherein

the signal line and the storage capacitor electrode are fabricated from a single electrode layer through patterning thereof.

36. The image sensor as defined in claim 35, further comprising:

a gate insulation film for covering a gate electrode of the switching element; and

a conductive body layer deposited on the gate

insulation film so as to be connected to the switching element, wherein

the storage capacitor electrode and the conductive body layer constitute the storage capacitor across the gate insulation film.

37. The image sensor as defined in claim 35, wherein the scanning line is anodized.

38. An image sensor, comprising:  
an active matrix substrate;  
a conversion section for converting incident magnetoelectric radiation to electric charges; and  
bias voltage application means for causing a storage capacitor to store the electric charges, wherein  
the active matrix substrate includes:  
a pixel electrode provided in each pixel area bounded by a scanning line and a signal line that are disposed in a matrix as a whole;  
a switching element connected to the scanning line, the signal line, and the pixel electrode;  
a storage capacitor electrode for constituting a storage capacitor with the pixel electrode therebetween; and  
a storage capacitor common wire disposed parallel to

the signal line so as to be connected to the storage capacitor electrode, wherein

the scanning line and the pixel electrode are fabricated from a single electrode layer through patterning thereof.

39. The image sensor as defined in claim 38, wherein the scanning line is anodized.

40. An image sensor, comprising:  
an active matrix substrate;  
a conversion section for converting incident magnetoelectric radiation to electric charges; and  
bias voltage application means for causing a storage capacitor to store the electric charges, wherein  
the active matrix substrate includes:  
a first pixel electrode provided for each pixel area bounded by a scanning line and a signal line that are disposed in a matrix as a whole;  
a switching element connected to the scanning line, the signal line, and the first pixel electrode;  
a second pixel electrode connected to the first pixel electrode;  
a storage capacitor electrode for constituting a storage capacitor with the second pixel electrode

therebetween; and

a storage capacitor common wire disposed parallel to the signal line so as to be connected to the storage capacitor electrode, wherein

the scanning line and the second pixel electrode are fabricated from a single electrode layer through patterning thereof.

41. The image sensor as defined in claim 40, wherein the scanning line is anodized.